



Digital Engineering Information Exchange Working Group (DEIXWG): Emerging Thoughts from the Community

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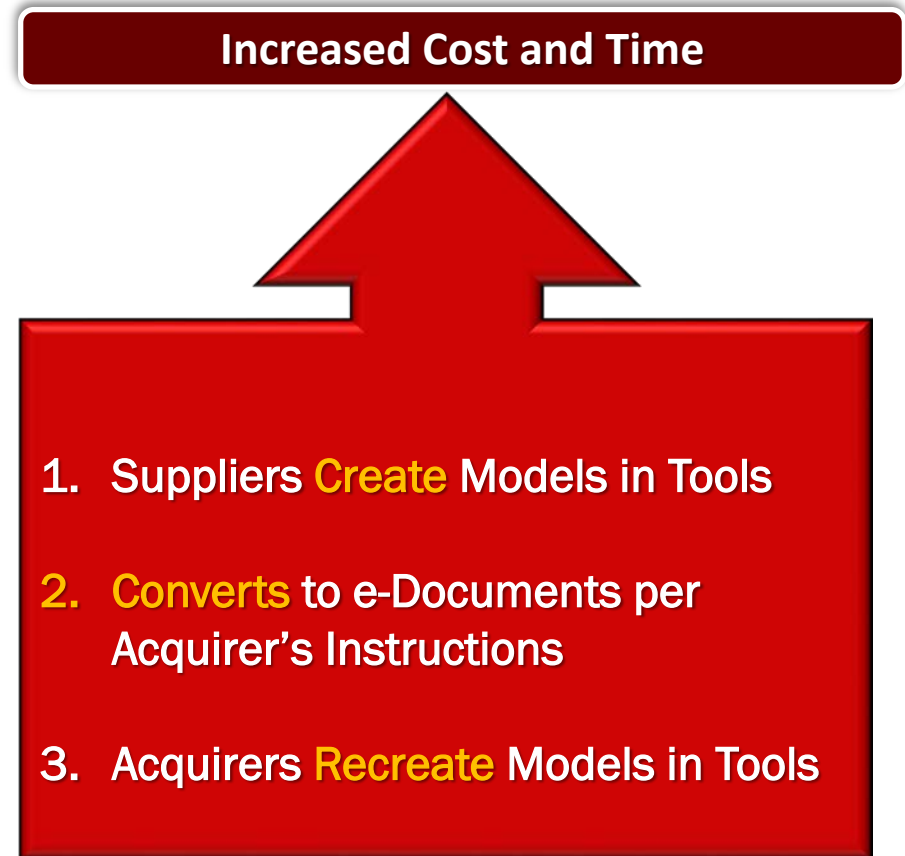
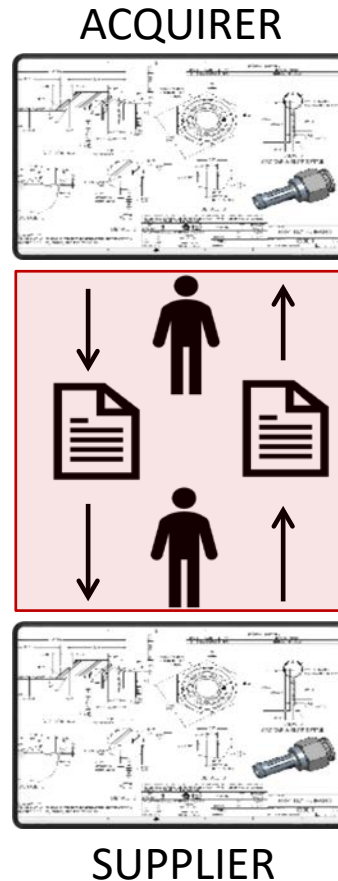
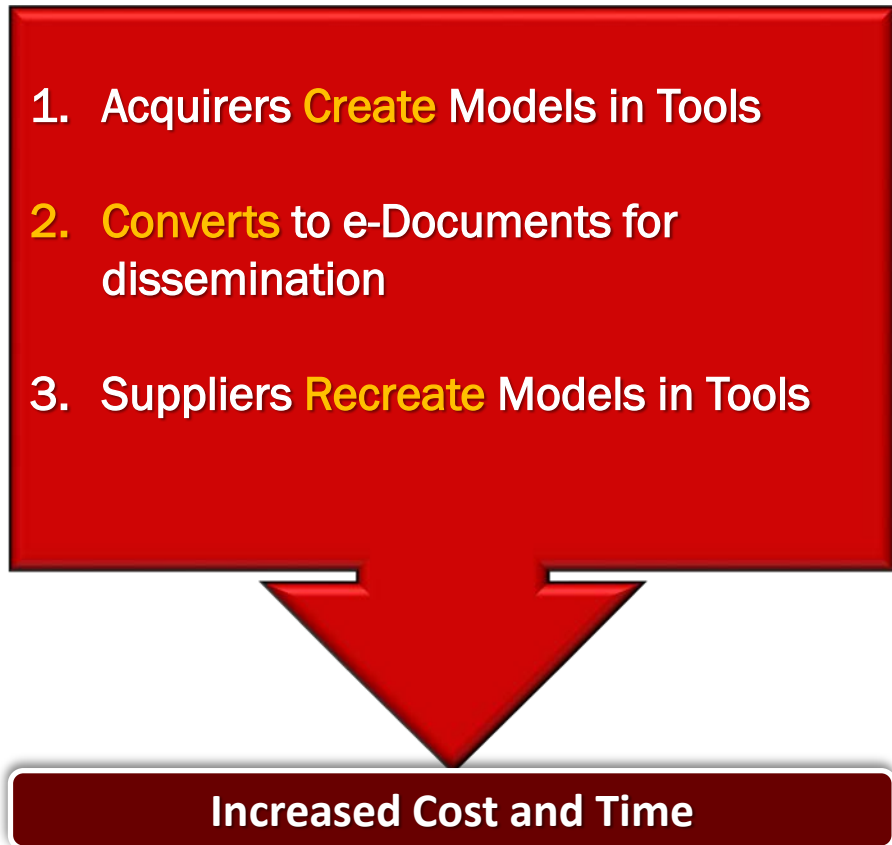
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Problem Statement:
Digital Artifacts Conversion & Reconversion

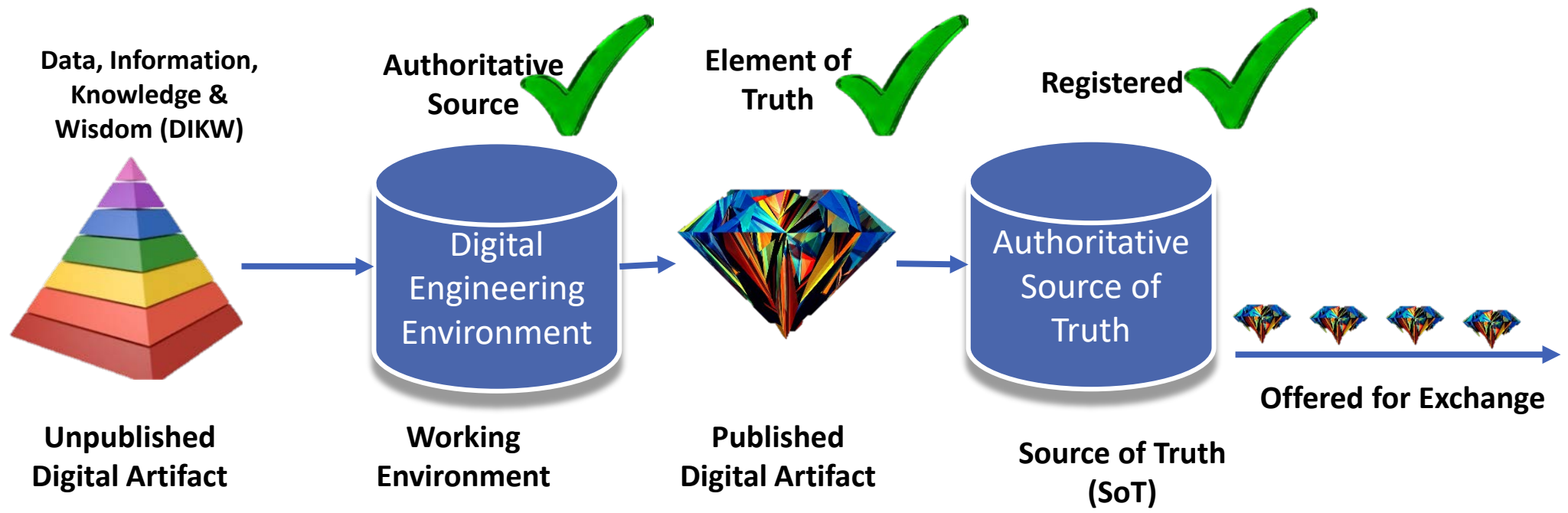
The World of Data Item Descriptions (DID) & Contract Data Requirements List (CDRL)
“The Cycle of Create and Recreate”



The Formation of the Model Based Engineering Digital Artifact



Model-Based Engineering Community



From Digital Artifact to Digital View



We have a variety of digital artifacts and digital presentation technologies



What Digital Artifacts and how do you want to view them

Physics Based Model



Digital Artifact

3D CAD

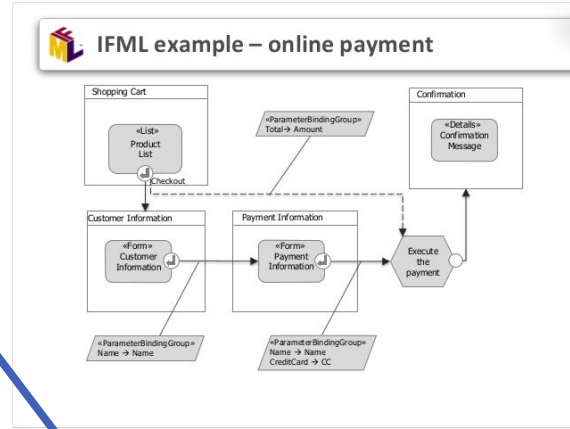


Digital Artifact

System Model



Digital Artifact



Digital Viewpoint Model

What syntax & semantics do we use to express our digital views

Digital Views

Data Visualization

Model-Based SE -SysML

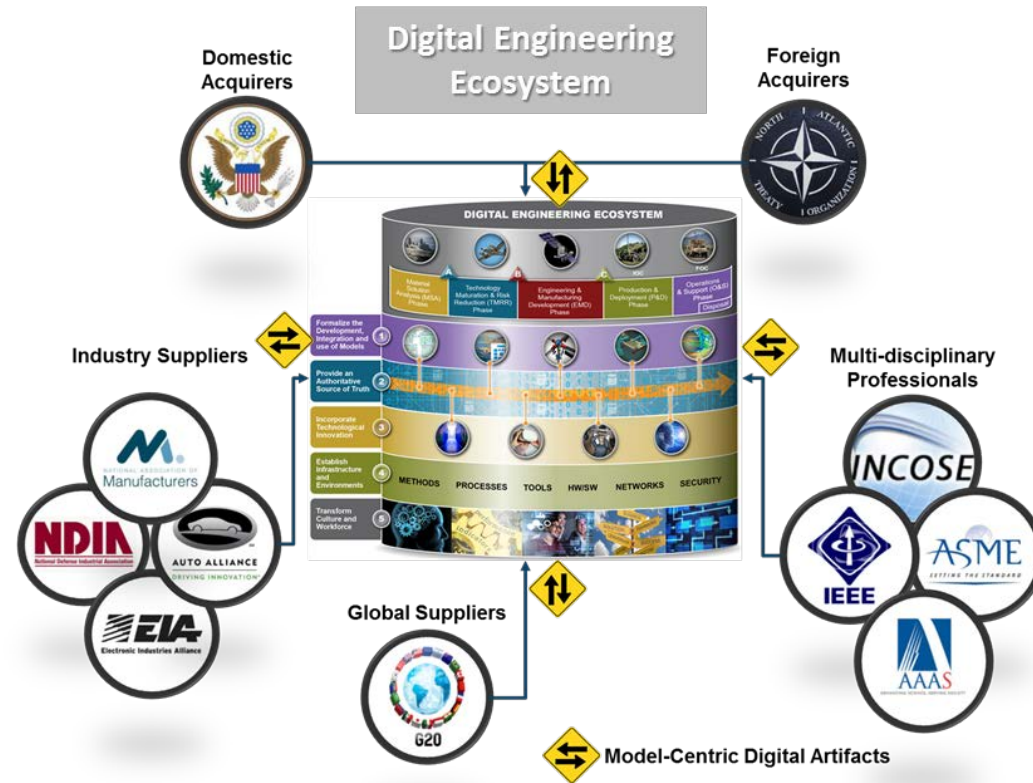
Mathematical Models

Dynamic Webpage / Portal

The combinatorial options are endless

Modes of Digital Engineering Exchange

- Exchange Digital Artifact Files
- Synchronize Digital Artifacts in Clone Systems
- Grant Remote Access to Source Digital Artifacts
- Loan & Borrow Digital Artifacts from 3rd Party Trusted Agent



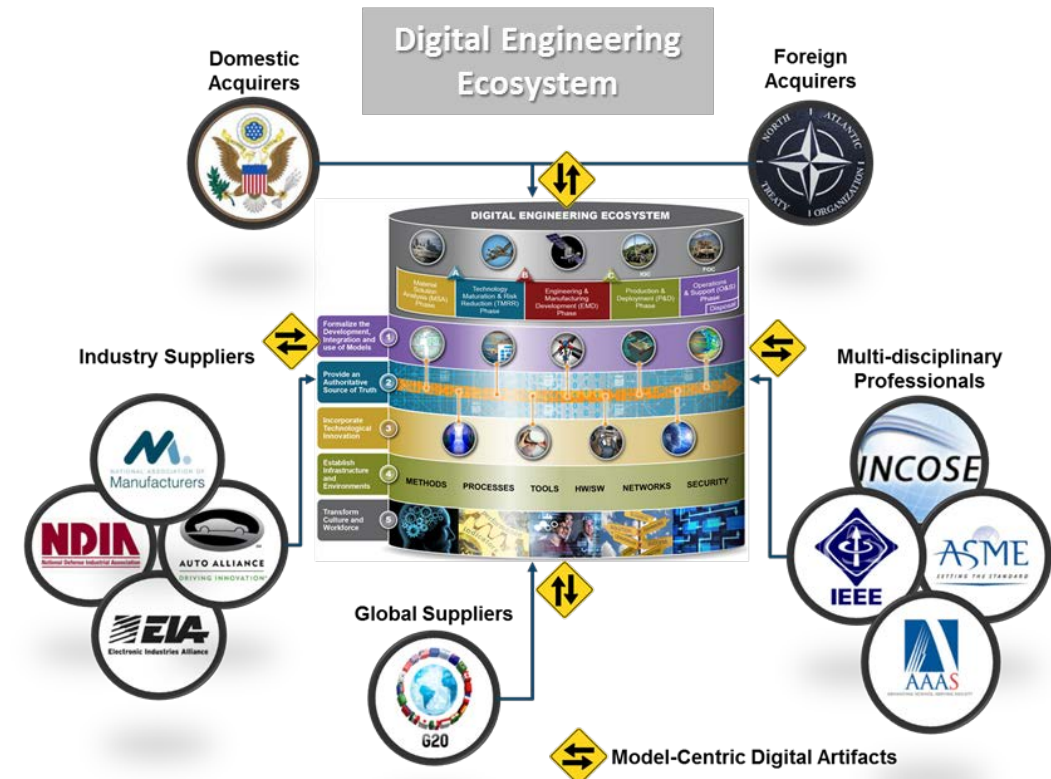
Digital Engineering Information Exchange Working Group

A Standardized way to Offer, Request and Exchange Digital Artifacts

Product Descriptions

- **DEIX Primer:** A narrative that describes the concepts and interrelationships between digital artifacts, enabling systems, and exchange transactions (**Project Lead:** John Coleman, *Engility*)
- **Digital Engineering Information Exchange Model (DEIXM):** A prescriptive system model for exchanging digital artifacts in an engineering ecosystem (**Project Lead:**, Chris Schreiber, *Lockheed Martin*)
- **Digital Viewpoint Models (DVM):** Descriptive information models of digital views that form content for ISO 15288.2 reviews (**Project Leads:** Frank Salvatore, *Engility* & Tamara Hambrick, *Northrop Grumman*)
- **DEIX Standards Framework (DEIX-SF):** A framework for official standards related to MBE Information Exchanges (**Project Lead:** Celia Tseng, *Raytheon*)

Information Exchange Model for Digital Engineering Ecosystem



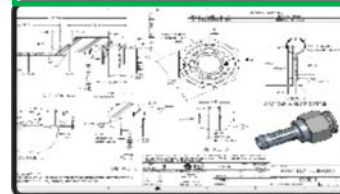
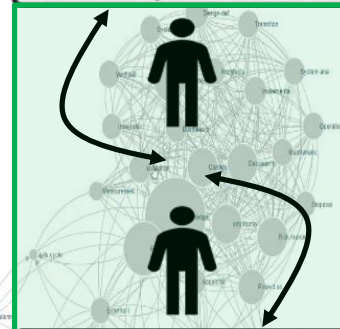
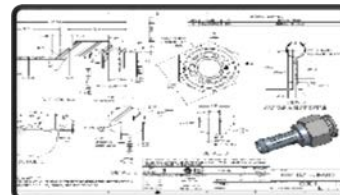
Opportunity Statement: Automated, Synchronized, & Interactive MBE Information Exchange

The World of Digital Engineering Information Exchange
“Seamless Exchanges in a Digital Ecosystem”



1. Acquirer **Creates** Digital Artifacts
 2. **Software Enables** Digital Viewpoints
 3. Acquirer **Grants** Access to Digital Views
- And / Or
4. Acquirer **exchanges or synchronizes** Digital Artifacts

ACQUIRER



SUPPLIER

1. Supplier **Creates** Digital Artifacts in tools
 2. Software **Enables** Digital Viewpoints
 3. Supplier **Grants** Acquirer Access to Digital Views
- And / Or
4. Supplier **exchanges or synchronizes** Digital Artifacts

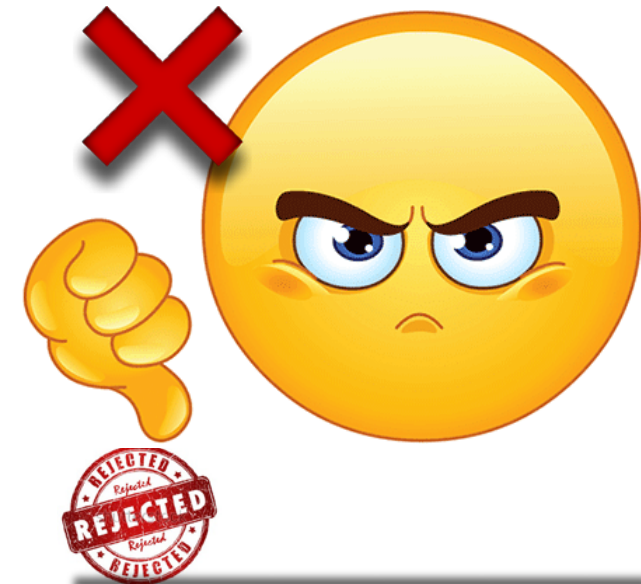
If this is you; then...



Help us Finish It!



Join to Learn More



Lets make it Better!

The DEIX Working Group Needs Volunteers



DEIX Primer

MODEL-BASED
ENGINEERING THOUGHT
LEADERS / WRITERS

DIGITAL STRATEGY
THOUGH LEADERS /
WRITERS

TECH-EDITORS & PEER-
REVIEWERS

DEIX Model

ENTERPRISE SYSTEM
MODELERS

MODEL-BASED SYSTEM
ENGINEERS

REQUIREMENTS ANALYST

Digital Viewpoint Model

INFORMATION & DATA
MODELERS

SOFTWARE ARCHITECTS

USER EXPERINCE / USER
INTERFACE UX/UI
DESIGN EXPERTS

DEIX Standards Framework

RESEARCHERS

INFORMATION SYSTEMS
EXPERTS

TECHNICAL STANDARDS
EXPERTS



For More Information



- Go to INCOSE Digital Engineering Information Exchange Website:
 - <https://www.incose.org/incose-member-resources/working-groups/transformational/digital-engineering-information-exchange>
- Go to OMG MBSE Initiative
 - <http://www.omgwiki.org/MBSE/doku.php?id=mbse:deix>

- Contact

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